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ABSTRACT

The purpose of this paper is to examine the status of deictic reference in the speech of 19 three-year-old Black children. The deictic verbs of motion are examined with reference to other aspects of the deictic system. The data for this study are approximately eight hours of spontaneous speech collected in a pre-school classroom. The hypothesis to be investigated is that "go" and "take" are more frequent than "come" and "bring" in the speech of children at this age, due to two sets of feature constraints on "come" and "bring," which are discussed. Reasons for believing that the child first learns the core meaning of a lexical item within a semantic field and only later acquires the derived meaning are offered. Use is made of certain concepts from Piagetian psychology in describing how the deictic system functions for the child. A justification for the use of these concepts is provided. The importance of the study is two-fold: it explores the appropriateness of Fillmore's description of deictic verbs for child language, and attempts to establish certain characteristics of the deictic system in child language, an area that has been neglected in linguistic research to date. (Author/CLK)

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DEICTIC REFERENCE IN CHILDREN'S SPEECH

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Deictic Reference in Children's Speech[1]

While many areas in child language have been studied in depth deictic reference has been seriously neglected. Deixis is

> the lexical items and grammatical forms which can be interpreted only when the sentences in which they occur are understood as being anchored in some social context, that context defined in such a way as to identify the participants in the communication act, their location in space and the time during which the communication act is performed. (Fillmore,1971a,p.1)

This paper deals with the hypothesis that go is more frequent than come and take is more frequent than bring in the speech of three year old children. This distribution should obtain given the following semantic components of these verbs: First, go and take require only speaker anchoring that is, considerations of the speaker's role while come and bring may instead require speaker or hearer anchoring that is, considerations of the roles of speaker and/or hearer[2]; Second, go and take require that the child coordinate fewer pieces of information about the speech event. This means that he has to plan fewer future events or reconstruct fewer past events; Third, the source of the action in go and take is frequently nearer the speaker than is the action expressed by come and bring. This proximity to the speaker would be consonant with the child's egocentric frame of reference.

Between three and five children have been described as using an egocentric reference system in their spatial behavior.

> In an egocentric system the position of objects within the environment are defined by their relation to the viewer, or more precisely, by their relation to an axis which is itself defined with respect to the body of the observer. (Acredolo,1973,p.6)

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The ontogenesis of spatial behavior has been described by Werner and Kaplan (1963) and Piaget and Inhelder (1967) as progressing from egocentrism (subjective reference) to a more objective reference system. This progression is not linear but consists of a series of cognitive systems which are constantly being reorganized. Initially (prior to two years) the child acquires the ability to organize the separate spaces around him into a coordinated space. Piaget has referred to this process as the acquisition of practical space. Next (from two to seven years) he organizes space in terms of his own location. Later his conception of space is "oriented in terms of fixed elements in the environment rather than the elements being oriented egocentrically to the child" (Hart and Moore,1971,p.50).

Method

The data analyzed for the investigation of this hypothesis were collected in the classroom of a Piagetian pre-school. The data are approximately eight hours of speech consisting of interactions between myself and one or more children. The conditions of data collection remained relatively constant over time so as to assure a high degree of continuity in the corpus. The subjects were eighteen Black children, approximately three years old. In the pre-school classroom I was seated at a centrally located table. All conversations were tape recorded. The stimulus objects were the Fisher-Price rooms and people[3]. Usually in any one recording session two children chose to play at my table.

Analysis

The analysis included the following. First, all non-deictic

uses of come, go, bring, and take were excluded. These included for example,

come

M 8:14[4]	Come on baby.
B 6:14	Batman come on.

go

R 23:2	It goes like this.

In addition imitative occurences of these forms i.e.,occurences of an identical or near identical utterance within six utterances from the first occurence were ommitted so as not to inflate frequency totals for each verb[5].

The verbs were first considered in pairs according to the semantic field to which they belong: ambulation --- go and come; manipulation --- take and bring. Of the nine children who used take and/or bring eight used take more often than bring. Of the eleven children who used come and/or go nine used go more frequently than come. The frequency of usage is stated in terms of inequalities (go greater than come and take greater than bring) because there is great inter-subject variability in the level of number of words uttered in the sample as a whole.

The sign test was used to rank one member of a pair with respect to another in order to determine whether there was a statistically significant difference between come versus go and bring versus take. The analysis revealed that the number of children who used take more frequently than bring was significantly greater than those who used bring more frequently than take. The probability of this result given the null hypothesis that there is no difference between bring and take is $p<.02$. Again using the

sign test it was determined that the number of children who used go more frequently than come was significantly greater than those who used come more often than go with $p < .033$.

The results show that there is a distinct difference between go versus come and take versus bring. Some have argued that despite the level of significance achieved in this study some artifact of the experimental situation accounts for the results. That is, perhaps under more natural conditions for example, tape recording a child moving about freely in the home, the differences observed might be obliterated. Others suggest that perhaps my line of questioning or interaction inhibited the infrequent forms. To the first criticism I offer the following replies. Ames and Learned (1948) found not only that go was used more frequently than come (this distribution obtained from twenty-four to thirty-six months) but that go was acquired earlier than come (twenty-one versus thirty months). Bateman (1914,1915), in a study of his daughter, discovered go present in the lexicon at twelve months, come and take at twenty-eight months, and bring at thirty-six months. In a rather extensive study of the speech of twenty-four Australian children ranging in age from four years eleven months to five years eight months Harwood(1959) offered the following taxonomy. He recorded the number of times the deictic verbs among other items were used in various syntactic environments with the following results:

verb	frequency in the corpus
go	1723
come	730
take	237
bring	36

Again we find go greater than come and take greater than bring.

Ames and Learned collected their data by classroom observation and later by asking a series of formal questions administered out of the classroom[6]. Bateman's observations were collected in the home, Harwood's in a wide variety of locations around a pre-school, and mine in a pre-school classroom. Given the diversity of settings the recurrence of the results suggests some universality in the findings discussed here[7].

To the criticism that given the 'right' conditions no difference between the verbs would be observed, the following example is offered as proof that observable or determinable context does not seem to be the only determinant of conversation topic and thus verb choice.

Debby	30:16	And where's the pie?
T	30:17	I'm 'a make another pie.
Debby	30:18	Where is it? Is it on the table?
T	30:19	(mumble)
T	30:20	We were gonna get___ a ___
		We saw it there.
		We pickin' it up.
		...We took it homes....
		We saw a Christmas tree.

Considering the above example it seems clear that one cannot in any meaningful way argue that there simply were not an adequate number of 'right' contexts for the infrequent forms. What precipitated T's monologue is not apparent to this investigator.

There are other reasons for believing that the deictic verbs are distributed in the manner suggested by my results. When errors occur either in the choice of deictic verb or in the over-extension of a non-deictic form for deictic purposes the form that the child is trying to approximate falls in the infrequent category (<u>come</u> or <u>bring</u>).

A 4:9 I won't come her to bed.

In this example A uses <u>come</u> for <u>bring</u>.

While the last example might be interpreted as indicating that come is semantically a core form our data reveal no significant difference between come and bring. This notion would have to be investigated under more controlled experimental conditions.

Discussion

What explanations can be offered for these results and what implications do these findings have for linguistic theory? In answering the first question deixis is defined in terms of the cognitive demands it makes on the child. The second question requires that the appropriateness of a binary feature analysis for child language be considered.

As mentioned in earlier portions of this paper, part of the knowledge of deixis consists of the awareness of spatial relations, since the choice of deictic form is in part determined by the location of the speaker and/or hearer. While under normal conditions a three year old has no difficulty identifying that he is at home rather than at school, he does have problems determining his physical location relative to another's. As a corollary he experiences difficulty identifying the perspective from which he views an object versus the perspective of that object from another's location. When asked to draw what a variety of objects will look like from different locations around a table, the following stages of responses have been observed(Piaget and Inhelder,1967). Below age four the children produce drawings with no observable shape. In Stage II, four to seven years, frequently no representation of perspective is made with drawings depicting the object from a random point of view in isolation. By seven years (Stage III) differences in perspective are clearly demonstrated. The argument

that the problem is merely the child's inability to draw is countered by validation of these results on a task where the child is asked to represent what a doll sees at a variety of places around a toy mountain by selecting a view from a series of photographs (Piaget and Inhelder,1967,p.210-246). In summary the youngest children (three years), the same age as those in this investigation, were unable to determine another's perspective.

Role-taking is another ability that the child must possess in order to have an adult command of come, go, bring, and take. Role-taking does not refer to the child's ability for example, to imitate the mother when playing with dolls. Instead

> there seems to be, implicit in the concept of role-taking, an assumption about a plurality of potentially different ways of being, and a presumption of limited occupancy, which sets one way of being apart from another. (Chandler,1973,p.3)

Flavell(1970) observes that in order to engage in role-taking behavior the child must know a variety of things, among them: first, that he has a perspective, that is that he has a point of view and second, that the point of view of others may be relevant, that an analysis of these points of view may be warranted in given situations. In addition, the child has to realize that this type of analysis is useful in the achievement of a particular goal. This would mean that in the case of the deictic verbs the child would in some way recognize that he must analyze (in some cases) where the other person is located or will be located and then select a deictic verb accordingly. Selman(1973) found that pre-school children assume that the role they take in a given situation does not differ from the role of another.

Given that three year old children evidence difficulty in

performing tasks that are the basis for deixis it is not surprising that the 'simpler' forms are acquired earlier. Simplicity is taken to include both cognitive and linguistic notions. The preceding discussion has considered what would be cognitively more or less complex for the children in this study. Linguistic complexity is an ill-defined concept and has in its application to a wide variety of linguistic and psychological theories created much furor. This paper does not attempt to eliminate this problem. Instead, in this investigation linguistic complexity with respect to deictic verbs encompasses several fundamental notions.

In part Fillmore's description of English deictic verbs (1971b) provides us with a focus. One can extrapolate from his discussion that the appropriateness conditions for come and bring are more complex than those for go and take. Go and take are selected when the destination of the action is different from the location of the speaker at the time he produces the utterance, that is at coding time. All the speaker has to determine is that whoever is moving moves to a place different from his own at the time he (the speaker) describes the action. Come and bring require that a larger number of 'roles' and times be considered:

> 'come' and 'bring' indicate motion toward the location of either the speaker or the addressee at either coding time or reference time or toward the location of the home base of either the speaker or hearer at reference time. (Fillmore,1971b,p.12)

Clearly the speaker has many more decisions to make in order to select either come or bring while go and take require only one major decision as I have indicated. Thus in some sense go and take are less complex than come and bring.

As we have seen the three year old has extreme difficulty making

the types of decisions required to select come and bring. This is not to say that lengthly periods of overt analysis precede the speaker's choice and production of a deictic verb. Rather, in a metaphorical sense the speaker follows a decision-making procedure in choosing the deictic verb appropriate to the situation. This procedure requires that the speaker understand that he has a point of view, that people may assume various roles and that certain activities require planning. In being cognizant on some level of these things he is capable of defining the speech event so as to pick the correct deictic form.

The parallels between the linguistic and the cognitive aspects of the deictic verb system are so great that it may be more economic to account for them in terms of one underlying factor. What we need is a way of talking about this set of phenomena without making artificial distinctions. Similarly Bierwisch has proposed "that all semantic structures might finally be reduced to components representing the basic dispositions of the cognitive and perceptual structure of the human organism" (Bierwisch,1970,p.181).

The preceding discussions have attempted to establish both the cognitive and linguistic explanations for the finding that go is more frequent than come and take is more frequent than bring in the speech of three year old children.

The relationship between these results and linguistic theory is complex and merits serious consideration. The fact that there is only one error in the overt use of deictic verbs (A 4:9 I won't come her to bed) in this corpus suggests that when these verbs are used there is little confusion about the

appropriateness conditions for them. The significant differences in frequencies indicate that while 'go-like' versus 'come-like' and 'take-like' versus 'bring-like' oppositions are present in cognition, their linguistic realizations have not yet been fully learned. Proof of this cognition without full expression linguistically is found by examining three phenomena in the data.

First, when the situation is ambiguous, that is when either member of a pair can be used, the children select the linguistically less complex and in this data more frequent form --- go or take. For example, JW said

JW 16:28 This one go out

when a doll was moving out of the house. Go was selected because JW was emphasizing the movement away from the house rather than movement toward a destination. This means that when there is a choice cognitively speaking but none linguistically because the alternative has not been fully acquired, there is only one form from each pair that is generally used --- go or take. This arises because go and take have been more fully integrated into the child's lexicon.

Second, there are instances which call for a deictic verb but where the actual utterances are either verbless or verbal substitutions for deictic forms. It appears that the children 'know' the demand characteristics of the situation but lack the linguistic form.

Bb 8:23 Get some bread

Here Bb is offering JH some bread and is not dictating that she go get some bread. Get it turns out, is a neutral precursor to both take and bring. Thus it is used in situations that the child

recognizes as requiring deictic reference but in which the child lacks the adult command of the form.

R 27:8 I get it out

In fact there are instances where take is also used in the same situation with reference to exactly the same event.[8]

R 26:20 I take it out

Last, overextensions (Clark,1971) are in the direction of the infrequent forms. That is, go and take are used for come and bring.

Adr 2:34 Uh oh, here go three other

In this example Adr was referring to three dolls moving toward him. The situation called for come and not go but the latter was used. The over-extension of earlier acquired forms is consonant with Clark's findings (1971).

These phenomena suggest that particularly in the case of bring and take the children have acquired one member of the pair. This is not to say that they have acquired for example [+speaker anchoring]. With reference to these semantic phenomena in children's language it is not appropriate to speak of a binary feature system since a binary opposition exists where both members are present in the lexicon. For example, when a child learns the form big it represents the recognition of size rather than of the 'large' end of the size spectrum (Donaldson and Wales,1969). While the deictic verbs are not comparatives, when one form is learned we more appropriately speak of its presence and not of the other's absence. It makes more sense to say that it is not part of the child's lexical system at all. When it is acquired at a later time we are then able to speak of oppositions if it is appropriate.

Instead of a system of binary features describing lexical items it is proposed that there are constellations of predicates which represent what the child knows about a lexical item at points in ontogenesis. This is a more suitable means of representing children's lexical entries for two reasons. First, it eliminates the additive nature of some semantic proposals. That is, simple concatenation of features is inadequate for representing the child's knowledge of a lexical item. Instead a proposal like Bierwisch(1970) would be more appropriate where features are connected by certain kinds of relations. This proposal permits the representation of relations that could not be accounted for by additive markers (relations between the markers could not be represented by earlier theories(Bierwisch,1971)).

Second, the use of semantic relations reflects the qualitative changes that occur in lexical entries. This means that as the child develops cognitively the changes in his thinking can be reflected as reorganizations --- in Werner and Kaplan's terminology --- increasing differentiation and hierarchic integration. Metaphorically, instead of viewing growth of the lexicon as adding onto a feature list we can think of it as changing views in a kaleidescope.

I am not suggesting that the theory of binary features be eliminated. Rather it should be used as a descriptive framework only when both members of a pair are fully acquired. The child's lexicon instead warrants a gestalt-like description that changes qualitatively as the child's cognitive system develops. These proposals are only tentative and need not only clarification but concrete systematization.

In conclusion we have discovered that go is more frequent than come and take is more frequent than bring in the speech of three year old children. Both psychological and linguistic reasons have been suggested for this distribution. In addition proposals for evaluating child language in terms of relations and features have been suggested as a more adequate means of representing children's lexical entries than a binary feature analysis. Just what the relations and features will look like and how they will be designed so as to adequately reflect cognition need further investigation.

FOOTNOTES

[1]I am indebted to the following people for their suggestions and comments on an earlier version: David G. Hays, George Williams, Paul Garvin, Joan Hooper, and Evan Cohen.

[2]This was brought to my attention by Gill Michell.

[3]These toys consisted of two father dolls, two mother dolls,two boy dolls, two girl dolls, tables, chairs, one sofa, stove, refrigerator, sink and tv.

[4]This notation represents the following: M--the child's name, 8--the page number in my transcription, 14--the line on that page.

[5]In only one case was the six line limit violated. In that case the child persisted in saying "I'm not coming to school again" every several utterances.

[6]This was part of a study of children's understanding and expression of spatial relations in general and not deixis.

[7]I also observed this distribution in an analysis of Bloom's 1973 data (see Bibliography) that I made with Gill Michell and Eugenia Matta.

[8]Of the 18 children in this study 3 did not use any deictic verbs at all during the recording sessions.

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